

WHAT IS CLAIMED:

1. A circuit, comprising:
 - a measurement circuit coupled to receive an input signal from at least one of a first antenna and a second antenna of a transmitter, the measurement circuit producing an output signal corresponding to the input signal; and
 - a comparator circuit coupled to receive the output signal and a first reference signal, the comparator circuit arranged to produce a control signal in response to a comparison of the output signal and the first reference signal.
2. A circuit as in claim 1, wherein the comparator circuit is further coupled to receive a second reference signal and wherein the comparator circuit arranged to produce the control signal in response to a comparison of the output signal, the first reference signal and the second reference signal.
3. A circuit as in claim 1, wherein the measurement circuit further comprises:
 - an estimate circuit coupled to receive the input signal, the estimate signal producing plural estimate signals corresponding to the first antenna and the second antenna, respectively;
 - an averaging circuit coupled to receive the estimate signals, the estimate circuit arranged to produce respective averages of the plural estimate signals; and
 - a ratio circuit coupled to receive the respective averages, the ratio circuit arranged to produce an output signal corresponding to a ratio of the respective averages.
4. A circuit as in claim 1, wherein the input signal comprises at least one pilot symbol of a wideband code division multiple access signal.
5. A circuit as in claim 1, wherein the input signal comprises a plurality of pilot symbols and wherein the output signal comprises a ratio of the plurality of input signals.

6. A circuit as in claim 1, further comprising:

a Doppler estimate circuit coupled to receive the input signal, the Doppler estimate circuit arranged to apply an output signal corresponding to a Doppler frequency of the input signal to the measurement circuit; and

a delay profile estimate circuit coupled to receive the input signal, the delay profile estimate circuit arranged to apply an output signal to the measurement circuit corresponding to selected multipath signals.

7. A circuit as in claim 1, further comprising a channel estimate circuit coupled to receive the output signal, the channel estimate circuit arranged to produce a variable number of channel estimates corresponding to the output signal.

8. A circuit as in claim 7, further comprising a phase correction circuit coupled to receive a data signal and the variable number of channel estimates, the phase correction circuit arranged to correct the data signal in response to the variable number of channel estimates.

9. A method of processing signals for a communication system, comprising the steps of:

receiving an input signal from at least one of a plurality of antennas;

measuring the input signal;

producing an output signal corresponding to the measured input signal;

comparing the output signal to a first reference signal;

producing a first control signal in response to the step of comparing when the output signal has a value less than a value of the first reference signal.

10. A method as in claim 9, further comprising the steps of:

comparing the output signal to a second reference signal; and

producing a second control signal in response to the step of comparing when the output signal has a value greater than a value of the second reference signal.

11. A method as in claim 10, further comprising the step of producing a third control signal in response to the step of comparing when the output signal has a value between the value of the first reference signal and the value of the second reference signal.
12. A method as in claim 10, further comprising the steps of:
 - producing a plurality of channel estimates in response to one of the first control signal and the second control signal; and
 - producing less than the plurality of channel estimates in response to the other of the first control signal and the second control signal.
13. A method as in claim 9, further comprising the steps of:
 - producing an output signal corresponding to a Doppler frequency of the input signal; and
 - producing an output signal corresponding to selected multipath signals.
14. A circuit, comprising:
 - an estimate circuit coupled to receive an input signal from at least one of a plurality of transmit antennas and coupled to receive a control signal, the control signal corresponding to a number of the at least one of a plurality of transmit antennas, the estimate circuit selectively producing a first estimate signal and a second estimate signal in response to the control signal;
 - a correction circuit coupled to receive the input signal, the first estimate signal and the second estimate signal, the correction circuit producing a corrected input signal;
 - a combiner circuit coupled to receive the corrected input signal, the combiner circuit producing a combined input signal; and
 - a decoder circuit coupled to receive the combined input signal, the decoder circuit arranged to decode the combined input signal, thereby producing the control signal.
15. A circuit as in claim 14, further comprising:
 - a measurement circuit coupled to receive the input signal, the measurement circuit producing an output signal corresponding to the input signal; and

a comparator circuit coupled to receive the output signal, a first reference signal and a second reference signal, the comparator circuit arranged to produce a second control signal in response to a comparison of the output signal, the first reference signal and the second reference signal.

16. A circuit as in claim 14, wherein the input signal comprises at least one pilot symbol of a wideband code division multiple access signal.

17. A circuit as in claim 14, wherein the control signal comprises a transmit diversity signal.

18. A method of processing signals for a communication system, comprising the steps of:
receiving an input signal from at least one of a plurality of transmit antennas;
receiving a control signal having a value corresponding to a number of the at least one of a plurality of transmit antennas;
selectively combining the input signal from the at least one of a plurality of transmit antennas in response to the control signal;
decoding the input signal, thereby producing the control signal.

19. A circuit as in claim 18, wherein the control signal comprises a transmit diversity signal.

20. A circuit as in claim 18, wherein the input signal comprises a data signal of a primary common control physical channel.

21. A communication circuit, comprising:
an estimate circuit coupled to receive a control signal and coupled to receive a plurality of input signals from a respective plurality of remote transmitters, each remote transmitter having at least one transmit antenna, the control signal corresponding to a number of the at least one transmit antenna, the estimate circuit selectively producing a first estimate signal and a second estimate signal in response to the control signal;

a correction circuit coupled to receive the input signal, the first estimate signal and the second estimate signal, the correction circuit producing a corrected input signal;

a combiner circuit coupled to receive the corrected input signal, the combiner circuit producing a combined input signal;

a decoder circuit coupled to receive the combined input signal, the decoder circuit arranged to decode the combined input signal, thereby producing the control signal; and

a memory circuit arranged to store each said control signal corresponding to said respective plurality of remote transmitters.

22. A communication circuit as in claim 21, wherein each of the control signal is a transmit diversity signal.

23. A communication circuit as in claim 21, wherein said selectively producing comprises producing only the first estimate signal in response to a first logic state of the control signal and producing the first and the second estimate signals in response to a second logic state of the control signal.

24. A circuit as in claim 21, wherein each of the first and second estimate signals is a Rayleigh fading parameter estimate.